

CLAIMS

WHAT IS CLAIMED:

1. An apparatus, comprising:
a slave device adapted to receive a first request from a first master device; and
a record of one or more previous requests from the first master device and at
least one additional master device, wherein the slave device is adapted to grant the
first request based upon the record.
2. The apparatus of claim 1, wherein the record comprises a queue of more than
one element associated with the first master device and the at least one additional
master device.
3. The apparatus of claim 2, wherein the slave device is adapted to arrange the
elements in the queue to indicate the order in which the slave device granted the one
or more previous requests from the first and the additional master devices.
4. The apparatus of claim 3, wherein the record further comprises a retry pool
including more than one position corresponding to the first master device and the at
least one additional master device.
5. The apparatus of claim 4, wherein the more than one positions in the retry
pool each comprise a storage element.

6. The apparatus of claim 5, wherein the slave device is adapted to set the storage element at one or more positions of the retry pool to indicate whether the slave device has denied the one or more previous requests from the master devices corresponding to the one or more positions.

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7. The apparatus of claim 6, wherein the slave device is adapted to grant the first request based upon the order of the elements in the queue and the state of the storage element at the positions in the retry pool.

8. The apparatus of claim 7, wherein the slave device is adapted to determine whether the slave device has denied the previous request from one or more of the master devices by examining the storage elements at the positions in the retry pool.

9. The apparatus of claim 8, wherein the slave device is adapted to grant the first request if none of the one or more previous requests have been denied, as indicated by the retry pool.

10. The apparatus of claim 9, wherein the slave device is adapted to grant the first request if the order of the queue and the storage elements in the retry pool indicate that the first master device is the least recently served of the master devices that have had a request denied.

11. The apparatus of claim 10, wherein the slave device is adapted to deny the first request if the order of the queue and the storage elements in the retry pool

indicate that the first master device is not the least recently served of the master devices that have had a request denied.

12. An apparatus, comprising:

5 a slave device adapted to receive a request from a first master device via a bus, wherein the first master device is one of a plurality of master devices coupled to the bus;

a queue of a plurality of elements adapted to indicate the order in which the slave device has granted at least one previous request;

10 a retry pool comprising a plurality of positions adapted to indicate which of the plurality of master devices have had a previous request denied by the slave device; and

an acceptor circuit adapted to grant the request based upon the queue and the retry pool.

13. The apparatus of claim 12, wherein the plurality of positions in the retry pool each comprise a storage element.

14. The apparatus of claim 13, wherein the acceptor circuit is adapted to set the storage element to indicate which of the master devices has been denied a previous request.

15. The apparatus of claim 14, wherein the acceptor circuit is adapted to grant the request if the storage elements in the retry pool indicate that none of the master devices has had a request denied by the slave device.

5 16. The apparatus of claim 15, wherein the acceptor circuit is adapted to grant the request if the first master device is the least recently served of the master devices that have had requests denied by the slave device, as indicated by the plurality of elements in the queue and the plurality of positions in the retry pool.

10 17. The apparatus of claim 16, wherein the acceptor circuit is adapted to deny the request if the first master device is not the least recently served of the master devices that have had requests denied by the slave device, as indicated by the plurality of elements in the queue and the plurality of positions in the retry pool.

15 18. A method, comprising:
receiving a request from one of a plurality of master devices; and
granting the request based upon a record of a plurality of previous requests.

20 19. The method of claim 18, wherein granting the request comprises granting the request based upon a record of previously denied requests.

20. The method of claim 19, wherein granting the request comprises determining whether the record of previously denied requests indicates that at least one previous request from the plurality of master devices has been denied by the slave.

21. The method of claim 20, wherein granting the request further comprises granting the request if the record of previously denied requests indicates that no previous requests from the plurality of master devices have been denied by the slave device.

22. The method of claim 21, wherein granting the request further comprises granting the request based upon a record of previously granted requests.

23. The method of claim 22, wherein granting the request based upon a record of previously granted requests comprises determining whether the request is being made by the least recently served of the master devices, based upon the record of previously granted requests.

24. The method of claim 23, wherein granting the request further comprises granting the request if the request is being made by the least recently served of the master devices that have been denied previous requests, as indicated by the record of previously denied requests and the record of previously granted requests.

25. The method of claim 24, wherein granting the request further comprises denying the request if the request is not being made by the least recently served of the master devices that have been denied previous requests, as indicated by the record of previously denied requests and the record of previously granted requests.

26. A method, comprising:

receiving a request from one of a plurality of master devices;

accessing a retry pool comprising a plurality of storage elements, wherein the storage elements are adapted to indicate which of the plurality of master devices have made at least one denied request;

accessing a queue comprising a plurality of elements adapted to indicate the order in which the plurality of master devices have made at least one granted requests;

determining whether to grant the request based upon the queue and the retry pool; and

notifying the queue and the retry pool once the request has been granted or denied.

27. The method of claim 26, wherein accessing the retry pool comprises examining the storage elements in the retry pool to determine if at least one of the plurality of master devices has made at least one denied request.

28. The method of claim 27, wherein accessing the queue comprises determining if the request is being made by the least recently served of the master devices that made at least one denied request.

29. The method of claim 28, wherein determining whether to grant or deny the first request comprises granting the request if the storage elements in the retry pool indicate that none of the plurality of master devices have made at least one denied request.

30. The method of claim 29, wherein determining whether to grant or deny the first request comprises granting the request if the first request is being made by the least recently served of the master devices that made at least one denied request.

31. The method of claim 30, wherein determining whether to grant or deny the first request comprises denying the request if the first request is not being made by the least recently served of the master devices that made at least one denied request.

32. The method of claim 31, wherein notifying the queue and the plurality of positions once the request has been granted or denied comprises notifying the queue if the request is granted.

33. The method of claim 32, wherein notifying the queue and the plurality of positions once the request has been granted or denied comprises notifying the plurality of positions if the request is denied.